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Recent Advances in Materials Science & Technology

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Course Director K. Aust

The Division of Extension
University of Toronto

This course is intended primarily to present the exciting advances and developments that have occurred in the past several years in the field of materials science and technology. This will include present-day concepts of the nature of metals, ceramics, glasses, polymers, composite materials, and the properties of these materials that have resulted in important technological advances in industry. The specific areas of materials where future advances may be anticipated will be discussed in detail.

The course is intended for engineers, scientists, managers and technicians who are presently engaged in a specific area of materials and who wish to broaden their interests and understanding. One of the main objectives will be to enable those who take the course to participate more readily in future advances in materials in relation to the needs of Canadian industry.

The lectures will be given by various senior members of the Faculty of Applied Science and Engineering and the Institute for Aerospace Studies, of the University of Toronto. These members are world-renowned in their respective fields, and are presently engaged in materials research. Many of the lecturers have recently worked in leading industrial research and development laboratories in Canada, U.S.A., and Europe, where they contributed to the present understanding and application of materials.

The course will consist of a two-hour lecture, one evening a week, for twelve weeks. The general subjects will deal with: metals, ceramics and glasses, polymers, composite materials, and the important properties of materials such as mechanical, magnetic, electrical, thermal, chemical and optical. Typical examples of specific areas of materials development to be considered are: interfacial properties of metals in relation to brittleness and corrosion, control of grain orientations for better mechanical and magnetic properties, advances in precipitation and diffusion, high-density sintered materials — e.g., transparent alumina, high-temperature alloys, controlled cast structures, semi-conductors, lasers, superplasticity, superconductivity, fibre-reinforced materials, and deformation of metals (fatigue).
Text: none

Tuesdays, commencing
September 24, 7:30-9:30 p.m.,
107 Galbraith Building,
St. George Campus.

$50.00 — 12 sessions

Requests for application forms may be directed to:

Business & Professional Courses,
Division of Extension,
University of Toronto,
84 Queen's Park,
Toronto 5, Ontario.
Telephone: 928-2400.

Offered in co-operation with the Ontario Chapter of the American Society for Metals